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upon that adopted by Professor Flower, but is modified to make it include the host of extinct forms here dealt with. In his preface the author avows himself one of that school of naturalists who use generic terms in a wider sense. The Pikermi and Mont Leberon beds are classed as Pliocene, the Eppelsheim beds as uppermost Miocene; the Ronzon and Hempstead (Isle of Wight) beds as lowest Miocene (the latter with a query); the Quercy phosphorites form the top of the Eocene, while the Egerkingen beds of Switzerland are placed at the bottom of the Upper Eocene. Among the peculiarities of classification is the inclusion of the dogs as a subfamily (Caninæ) of the Ursidæ. The Proboscidea include three species of *Dinotherium*, twenty-six of *Mastodon*, and eighteen of *Elephas*.

Report of the U. S. Commissioner of Fish and Fisheries, 1883.—This report contains twelve hundred pages of valuable matter and numerous illustrations, among which may be especially mentioned the eleven plates of Cetaceans, which illustrate Mr. True's suggestions to lighthouse-keepers and others relative to collecting examples of these animals. The report proper occupies only ninety-five pages, including a statement of the results of the inquiry into the history and statistics of food-fishes and an account of the progress of pisciculture. In the appendices we find papers by Stone, Tanner, Smiley, Duff, Day, Ljungman, Lundberg, Verrill, Bush, Eisen, Shufeldt, Seal, Mather, Benecke, etc. The most voluminous appendix is that relating to natural history and biological research. Nearly two hundred pages of this are occupied by Professor Verrill's account of the results of the explorations made by the "Albatross" in 1883. Lieutenant Tanner devotes a still larger space in Appendix A to the construction and outfit of the "Albatross," and a report upon the work done during the cruise of 1883. The "Albatross" reports are profusely illustrated.

Gustav Eisen's "Oligochætological Researches" and Dr. Shufeldt's "Osteology of *Amia calva*" are valuable special papers.

Biographical Memoirs of the National Academy of Science, Vol. II.—This volume contains fifteen biographies of deceased members of the National Academy, including the well-known names of Louis Agassiz, Jeffries Wyman, J. P. Kirtland, J. L. Le Conte, A. Guyot, and J. W. Draper.

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GENERAL NOTES.

GEOGRAPHY AND TRAVELS.¹

Miscellaneous.—Major-General Tillo has calculated, from the most reliable data, the lengths of various rivers, and gives the following as the eight longest: (1) Missouri-Mississippi, 4194 miles; (2) Nile, 4020; (3) Yang-tsze-kiang, 3158; (4) Amazon, 3063; (5) Yenisei-Selenga, 2950; (6) Amur, 2920; (7) Congo, 2883; (8) Mackenzie, 2868. The map of Humphreys & Abbot is the authority for the Missouri-Mississippi, which Klöders gives as 3658 miles.

AMERICAN NOTES.—Governor Fontana, of Chubut, has recently explored the Chubut and its tributary, the Charmate, passing through the Andes by a very low pass, since the confluence of the two mentioned rivers is only eighteen hundred feet above sea-level, and at sixteen hundred feet above the sea the valley of the Cercorado, a river flowing into the Pacific, was reached. On their return the party found a large lake, through which the river Senguel flows. The Welsh colony on the Lower Chubut will probably colonize on this lake.

Don Jose Santelices has ascended Licancaur, a volcano on the eastern boundary-line of the Chilian province of Antofogasta. Tambos—houses of a single room, with a low, stone bench—are found on the Inca road which leads to the summit. The crater was found to have a bottom thirteen hundred feet in diameter, with a pond four hundred feet by three hundred and fifty feet in its centre. On its banks there are remains of some thirty large stone houses built by the Indians, and a large quantity of fuel

¹ Edited by W. N. LOCKINGTON, Philadelphia.